# FIELD REPORT

# **Bass Collection**

# River Operable Unit, Bradford Island

Cascade Locks, OR

**Sample Dates: March to July 2022** 



# Prepared by:

U.S. Army Corps of Engineers Seattle District August 2022



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## 1.0 Introduction

The purpose of the field report is to document the activities conducted during bass collection at the River Operable Unit (OU) of Bradford Island. This document provides a summary of those activities, copies of field documentation kept, notable observations, and any field deviations to the approved final Quality Assurance Project Plan (QAPP) (USACE, 2022).

# 2.0 Project Background

The US Army Corps of Engineers (USACE) conducted a Remedial Investigation and Feasibility Study (RI/FS) for the in-water portion of Bradford Island, known as the River OU, in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Executive Order 12580. As part of the RI/FS, USACE evaluated risk to human health and the environment from exposure to surface water and sediment in the River OU. Based on the unacceptable risks identified for the River OU, USACE determined remedial action is necessary in order to reduce risk to human health and the environment.

Previous field efforts performed between 2006 and 2011 in support of the RI found elevated levels of PCBs in Smallmouth bass, relative to fish collected from upstream reference areas. PCBs in crayfish tissues from the Site were also elevated, relative to the reference area. During the FS, USACE conducted supplemental passive porewater sampling and sediment trap deployment in 2017 and 2018. This sampling effort included underwater video survey, with underwater images of the river bottom along the northern shoreline of Bradford Island showing minimal sediment and large cobbles and boulders. This lack of sediment raised concern regarding the continued presence of contaminated sediment and the validity of the conceptual site model (CSM) developed in support of the FS. Subsequently, USACE began collecting data to update the CSM for the River OU. The intent of this data is to help inform the current site conditions for the River OU and to aid in development of remedial action alternatives in a revised FS.

## 3.0 Project Objectives

As described in the Final Work Plan and QAPP for bass (USACE, 2022), the overall goal of this tissue collection effort and acoustic telemetry study is to update and confirm the conceptual site model presented in the RI/FS. Given the amount of time since previous tissue sampling efforts in 2011, coupled with the recent visual observations of the complex river bottom along the northern shoreline of Bradford Island, USACE believes this effort is prudent to undertake as part of the process to inform remedial alternative development and selection. Detailed Project Quality Objectives for bass can be found in the QAPP.

# 4.0 Sampling Activities

## 4.1 Bass Collection

The United States Geological Survey (USGS), led by Toby Kock, performed the bass collection for both the bass to be sent for chemical analysis and the bass to be tagged for the acoustic

telemetry study. Collection took place between March 14<sup>th</sup> and July 12<sup>th</sup>, Monday through Friday. Fieldwork was cancelled for some dates during the early portion of the collection period due to high water flows. Fieldwork was also postponed several weeks in April when it became apparent that below average water temperatures were limiting catch success. Bass were collected via angling for purposes of retaining fish for chemical analysis of whole body as well as for the bass that were tagged for acoustic telemetry. Tail lengths for all bass were measured to the nearest millimeter. Mass for each bass was collected at the end of each field day back at the USGS laboratory.

Stomach contents were purged from bass using gastric lavage, with methods prescribed in the QAPP. Stomach contents were retained and archived when sufficient mass could be obtained. Field notes provided descriptive text for any stomach content that was purged from bass.

USGS led the effort to collect, tag, and release bass for acoustic telemetry.

**Table 1.** Sample catch by date for chemical analysis

Date Collected (2022)	Total Number Collected
March 14	1
March 16	2
March 21	3
March 22	1
March 29	1
March 31	5
April 5	2
April 6	1
April 7	2
April 8	2
April 20	3
April 21	22
May 4	1
May 19	16
May 24	7
June 28	2
July 6	5
July 12	4
TOTAL	80

**Table 2.** Sample catch by location for chemical analysis

<b>Location Collected</b>	Total Number Collected
Bradford	44
Goose	20
Reference	16
TOTAL	80

**Table 3.** Sample catch by date for telemetry

Date Collected (2022)	Total Number Tagged
March 23	2
March 28	3
March 29	1
March 30	3
May 12	10
May 20	15
TOTAL	34

**Table 4.** Sample catch by location for telemetry

<b>Location Collected</b>	Total Number Tagged
Goose Island	9
North Bradford	8
Reference Area	2
South Bradford	15
TOTAL	34

# 5.0 Decontamination of Equipment and Waste Disposal

Sample equipment was regularly rinsed with site water if visible sediment or debris was present.

Solid waste, including nitrile gloves and aluminum foil, was collected in garbage bags and disposed of in commercial waste receptacles.

## 6.0 Sample Packaging and Shipping

All samples were held in a freezer at the USGS laboratory until shipment to the analytical laboratory on July 13<sup>th</sup>. All samples were shipped overnight via FedEx on dry ice and arrived within the acceptable temperature range.

# 7.0 Field Deviations from the QAPP

No notable field deviations occurred during collection of bass.

Any laboratory deviations encountered will be documented in the Final Data Report.

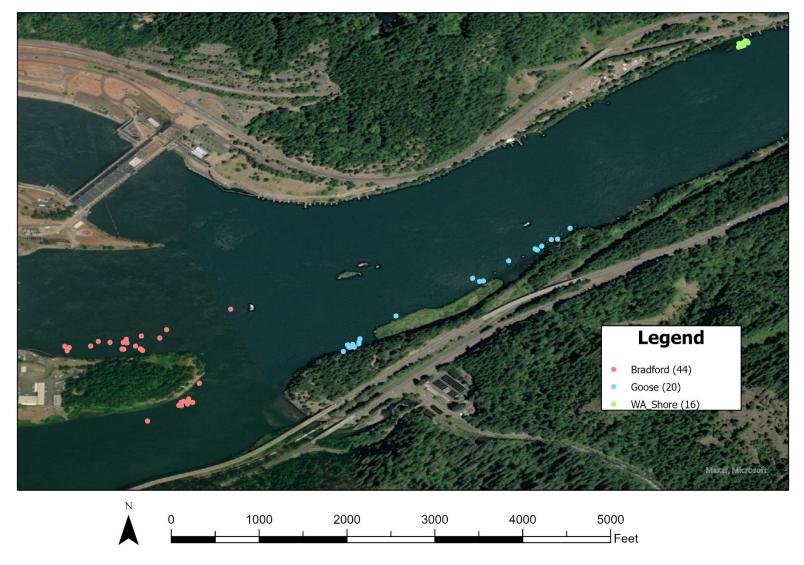
# References

USACE (United States Army Corps of Engineers). 2012. *Bonneville Project Safety Program*. March.

USACE. 2022. Final Work Plan with Quality Assurance Project Plan for Smallmouth Bass Acoustic Telemetry and Tissue Sampling for Spring 2022 at River Operable Unit, Bradford Island, Cascade Locks, Oregon. March 4, 2022

# **ATTACHMENT: Maps**

# Bradford Island Bass Tissue Sampling Spring 2022



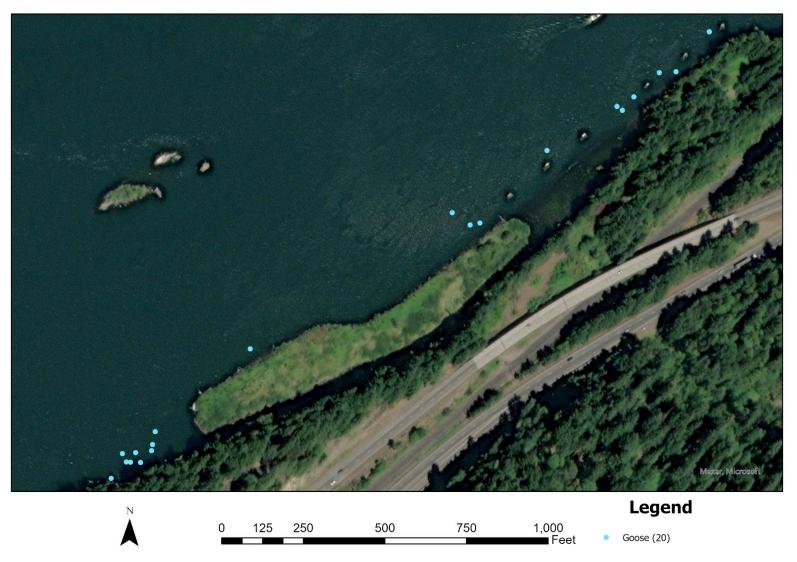
Map 1. Catch locations for smallmouth bass, all locations collected between 14 March and 12 July 2022.

# Spring Bass 2022 Tissue Collection Area: Bradford



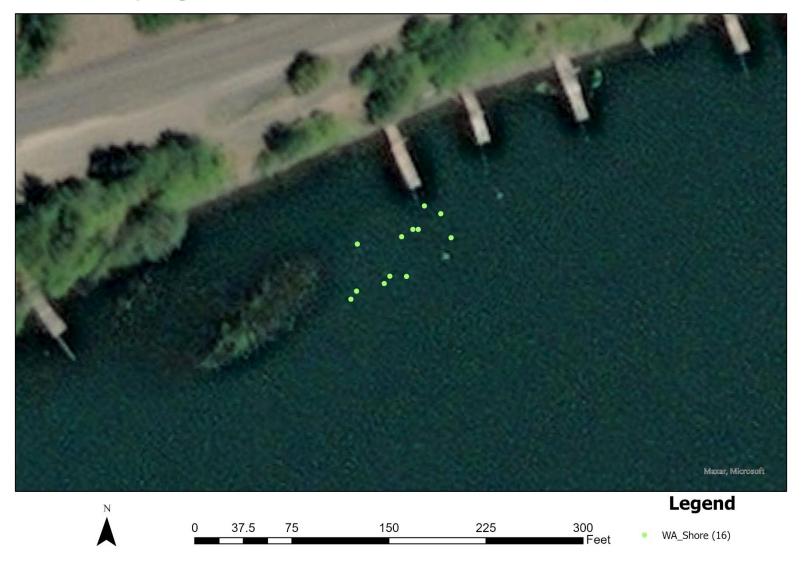
Map 2. Catch locations for smallmouth bass, Bradford Island (note: some points may not be visible because of overlapping coordinates)

# Spring Bass 2022 Tissue Collection Area: Goose



Map 3. Catch locations for smallmouth bass, Goose Island (note: some points may not be visible because of overlapping coordinates)

# Spring Bass 2022 Tissue Collection Area: WA\_Shore



Map 4. Catch locations for smallmouth bass, Reference Area (note: some points may not be visible because of overlapping coordinates)

# **APPENDIX A: Field Notes**

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Sheet of I	vessel: Tactific crew: TW F.C.	Comment/Observation															
		Mass (g)															
		Sample_ID	×														
		Stomach (Y/N)															
npling		T (mm)															
OU Bass Sar	1): 09:50	Species															
USGS CRRL and USACE Project: Bradford Island River OU Bass Sampling	Angling Start (hh:mm): 07.50 Angling End (hh:mm): 18.0	Longitude (DD)															
Project: Bradf	Angli	Latitude (DD)															
and USACE		Depth (ft)															
USGS CRRI	a m	Time (24hr)		2													
1	Weather conditions: Over Cast Cal M	Collection Area	N Frank	MA													
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Date: 3	Weather	Record	1	2	3	4	5	9	7	8	6	10	11	12	13	14	15

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

Sheet / of /

Vessel: 5/11/2 + Crew: 04, 6.11

Weather conditions: (10 vd y //ght E. wind

Angling End (hh:mm):\_\_

Angling Start (hh:mm): 0930

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Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

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Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Comment/Observation: tackle type, abnormalities, photo, ... as applicable

Mass: collected at end of day at CRRL

Crew: EC, SW, Git

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Angling Start (hh:mm):	Angling End (hh:mm):

Record	Collection Type	Collection Area	Time (24hr)	Depth (ft)	Latitude (DD)	Longitude (DD)	Species	TL (mm)	Stomach (Y/N)	Sample_ID	Mass (g)	Comment/Observation
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Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

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Angling Start (hh:mm):

Angling End (hh:mm): 15:00

Weather conditions: Overcast, slight breeze

Vessel: 44 14 Excur Sheet / of /

Comment/Observ	3 3705		•										
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Stomach (Y/N)	>												
TL (mm)													
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Collection	Rigsne												
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Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

Sheet 1 of (

Vessel: SKTLLE T

Crew: PH BH

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Latitude	(DD)	49.64291	45.6428g													
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	Record	<del>c-</del> l	2	33	4	7.	9	7	∞	6	10	11	12	13	14	15

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

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Vessel: AHH GALUTION

Crew: JW, EC

Comment/Observation Mass (g) Sample\_ID Stomach (X/X) (mm) Weather conditions: (loudy, E Wind turned to West Winn, Angling End (hh:mm): 1400 Species Longitude (DD) (00) Depth (ft) Time (24hr) Area

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Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Comment/Observation: tackle type, abnormalities, photo, ... as applicable

Mass: collected at end of day at CRRL

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Vessel: SKILLET	Crew: PH, 64		Comment/Observation											,				
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	Weather		Record	1	2	8	4	5	9	7	∞	6	10	11	12	13	14	15

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

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Angling End (hh:mm): 1450

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Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

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Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Comment/Observation: tackle type, abnormalities, photo, ... as applicable

Mass: collected at end of day at CRRL

Angling Start (hh:mm): 08,34

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Comment/Observation Mass Stomach (mm) Angling End (hh:mm): 14 '55 Species # Officelles Officerry MPN
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Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

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Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Comment/Observation: tackle type, abnormalities, photo, ... as applicable

Mass: collected at end of day at CRRL

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USGS CRRL and USACE Project: Bradford Island River OU Bass Sampling

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

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Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

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Vessel: Skillet

Crew: PIt, 6H

Weather conditions: FOSSY M.; With OMM water temp 41.1

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Collection Collection

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

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Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Comment/Observation: tackle type, abnormalities, photo, ... as applicable

Mass: collected at end of day at CRRL

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Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

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Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Comment/Observation: tackle type, abnormalities, photo, ... as applicable

Mass: collected at end of day at CRRL

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Comment/Observation Crew: 55 , 0-14 Vessel: SKILLEF Mass (g) Sample\_ID JSATO! Stomach Ω (X (X) (mm) 32 Angling Start (hh:mm): 09:13 Angling End (hh:mm): 15.01 Species 53 456, 121-Longitude 45.64296 Latitude (00) Depth 35.8  $\pm$ 04:01 Time (24hr) N BRAM Collection Area Weather conditions: 0464 CMST Suntifice TAMP: 411.6° Collection HECCOL Type Record 12 50 11 ∞ 6 9 ന Ŋ

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

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Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

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Comment/Observation Vessel: AAA EX Crew: EC JW Mass (g) Sample\_ID Stomach (N/Y) (mm) ㄷ Angling End (hh:mm): 13:40 Angling Start (hh:mm): 07;45 Species Longitude Latitude (DD) Depth (ft) Time (24hr) Weather conditions: Worth, WAWOY Collection Collection Area 好开 Type Record 19 12 11 œ 6 9 5 ന 4

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

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Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

Sukface white ! 41.8° @ 12:00

Angling Start (hh:mm): 07:45

Vessel: SKILLET

Crew: 545, 68H		Comment/Observation														
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Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

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onditions: cl	Collection	Type	1909	í	1											+	
Weather		Record	1	2	3	4	2	9	7	∞	6	10	11	12	13	14	15

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

Crew: JW JS

Vessel: 5/k,1/et

Angling Start (hh:mm): 07,55	Angling End (hh:mm): $(3, 30)$
	Weather conditions: Duer cast Windy

	Comment/Observation														
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Longitude	(DD)		BRZ N Brad - 07,55-11130	Shill08:11	0812 - Sh:11										
Latitude	(DD)		N Brac	ROCKI	137										
Depth	(ft)		BRZ	Boat	800 g										
Time	(24hr)		1	1	4		2								
Collection	Area		Angling Time												
Collection	Туре		Mugli												
	Record	₩.	2	က	4	5	9	7	∞	6	10	11	12	13	

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

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Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

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SKC UTSIONS

Angling End (hh:mm): 15:00

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Depth (ft)

Time (24hr)

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Collection Type

Record

Weather conditions:  $\frac{P}{C}$ 

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Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

14

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Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Comment/Observation: tackle type, abnormalities, photo, ... as applicable

Mass: collected at end of day at CRRL

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RRL and USACE Project: Bradford Island River OU Bass Sampling	- Orth 072,	_
Angling Start (hh:mm): 08;0	Vessel: AMA exc.	101510
Angling End (hh:mm): 15 :00	Crew: LD, FD,	52

Date: 8 | 29 | 22

Sheet / of /

Comment/Observation Vessel: 5killet SB5004 713 crayfishparts 71:30-11:30-31RZ 71:30-12:00-Ref Target Area. JW 12:00-15:00-BRZ Stomach Sample\_ID 08,50-09,20 USGS CRRL and USACE Project: Bradford Island River OU Bass Sampling 0.7.53-08.30Ω Σ (mm) Angling Start (hh:mm): 07.53Angling End (hh:mm): (5,00 Species 145,64320° | 121,93001° | SB Longitude (aa) Latitude Depth 30 Weather conditions: Sunny Rtches, Breezy 50:60 Time (24hr) Collection G0056 Collection (185We Type Record 10 11 12 ٠. 6 ∞ 7 4 5 3

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

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Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

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JSAT DE 342 45°36675 121°55.765 SMB by Machine Machine war Latitude Longitude (DD) Depth Weather conditions: Which Illudy 8008 14.51 Time (24hr) Collection Collection Area Type 120 Record 15 10 13 14 12 9 6 11 4 2 œ 3 7

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

Date: 3/30/22

USGS CRRL and USACE Project: Bradford Island River OU Bass Sampling

Sheet of

Vessel: SKillet	Crew: J. W	Comment/Observation		Theo .											X		
		Mass (g)											90				
- N Brad	950	Sample_ID	JSATO4	JS#T05													
-05/0/	0	Stomach (Y/N)	\				·										
52	0 - [50	TL (mm)	422	309							,						
07	(1/20) (1/20)	Species	S S	SB			P										
Angling Start (hh:mm): 07,55 - 10/50 - N Brad	Angling End (hh:mm): (1,'00 — [500 — 60036	Longitude (DD)	121,93357 SB	121,93996 SB													
Anglir	Angl	Latitude (DD)	45,64429			-									٠		
		Depth (ft)	64	1)													
	r anny	Time (24hr)	09,58	27:11													
-	Weather conditions: Over cast, rawy	Collection Area	N Brad	60052													
	onditions:	Collection Type	Tagging														
	Weather c	Record	П	2	m	4	2	9	7	- &	6	10	11	12	13	14	15

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

Sheet / of /

					Ang	Angling Start (hh:mm): 07:55	1: 07:5	2		2000		Vessel: Ed 1 Boot
Weather	onditions:	Weather conditions:			Anı	Angling End (hh:mm): 19:10	11:0014	Si	06:61	19:30 3 14 SECTION TO	DIA STATE	Crew: EC, TJK, BC
			7		A DELMER D	Bergins man		i		DOM - 08# 07/21	14 07/21	
Record	Collection	Collection	Time (24hr)	Depth (ft)	Latitude (DD)	Longitude (DD)	Species	TL (mm)	Stomach (Y/N)	Sample 1D	Mass (g)	Comment/Observation
-	Tryson &	N Brusta 08:25	08.55	38,	45,3850	12 \$ 56.207 S.M.B	SAB	328	2	SB 4005	496	Swin buit
2	TRESULE DATE	N Bordford BBIYS	2×180	,15	C1588 Sh	12156.209	5 M 8	295	2	SB4006	338	
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4	TESSUE	N Bredford 09:56	95:160	156	48 38.573	121 56,220	SAR	310	2	SBYOOB	433	11
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Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

Sheet of Sheet of Sheet Cof U	Comment/Observation							,								
	Mass (g)					-	7									
5 6m0 13:30 14:15	Sample_ID															
Coose 11:50	Stomach (Y/N)															
mpling 7	T (mm)															
0U Bass Sar 8/4:3 1): 07:5	Species															
USGS CRRL and USACE Project: Bradford Island River OU Bass Sampling  But  Angling Start (hh:mm): 07:55  Angling End (hh:mm): 18:35	Longitude (DD)															
Project: Bradfi Angli Ang	Latitude (DD)															
and USACE	Depth (ft)															
JSGS CRRI	Time (24hr)															
Date: \$\\$\frac{9}{2}\frac{7}{2}C  Weather conditions: \begin{align*} \text{Cool} : \text{WM} \frac{1}{2} \text{MM}	Collection Area	FESH														
onditions:	Collection Type	No														
Date: 5/3/2/	Record	1	2	3	4	5	9	7	80	6	10	11	12	13	14	-

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

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Sheet of /

Vessel: AAA Exc Crew: EG 5W, L. D	Comment/Observation			CRAY PASIA PARTS												
9	Mass (g)	365	1.7	308	43											
2012 MM 15:00	Sample_ID	O) OHES	SCHOOS	584011	SC4003											
alt h	Stomach (Y/N)	Z	X	V	>											
36	11 (mm)	310	R	289	153											
0.30	Species	SB	56	24	25											
Angling Start (hh:mm): 08:00 Angling End (hh:mm): 15:36	Operatory way Longitude (DD)	121°56,343	12/56,280	12/56.268	121 56,211											
Angli	Latitude (DD)	45°38,585 121°58,345 SB	45 38,589 12/ 56,280	45°38,585	45°38,586											
TPP ZV	Depth (ft)	32	44	37	36											
raw, t	Time (24hr)	10:36	12:23	12:44	14:45											
Weather conditions: Overcast, raw, breezy	Collection	N. Brod	N Brad	N Brad	N Brad											
Onditions:	Collection	Tissure	T;Su	Tissue Tissue	T. SSWe											
Weather	Record	1	2	3	4	5	9	7	∞	6	10	11	12	13	14	15

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

Date: 04	Date: 04/05/2022		USGS CRRL	and USACE	Project: Bradf	USGS CRRL and USACE Project: Bradford Island River OU Bass Sampling	r OU Bass Sai	mpling				Sheet / of /
Mrth.	Ems & sun	With they & suntinde @ 12:00 44.10	44.10		Angl	Angling Start (hh:mm): 08:05	n): 08:05	News				Vessel: SKTUET
Weather	conditions:	Weather conditions: JAMERET ; BALETY	143		Ang	Angling End (hh:mm): 15:00	m): 15:00					Crew: GH
Record	Collection Type	Collection Area	Time (24hr)	Depth (ft)	Latitude (DD)	Longitude (DD)	Species	TL (mm)	Stomach (Y/N)	Sample_ID	Mass (g)	Comment/Observation
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Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

Sheet \_\_\_\_ of \_\_\_

Angling Start (hh:mm): 07:57 AV

Vessel: AAA EXCUTSIONS Crew: LD, TO, JK, ED

Weather conditions: Sun, E Wind, 60°F

Angling End (hh:mm): 12:50 PMA

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Mass

Sample\_ID

Comment/Observation

(X/X) (mm)

Species

Longitude

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Depth **E** 

Time (24hr)

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Comment/Observation: tackle type, abnormalities, photo, ... as applicable

Mass: collected at end of day at CRRL

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

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Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

USGS CRRL and USACE Project: Bradford Island River OU Bass Sampling

Angling Start (hh:mm): 08:00

Angling End (hh:mm): 12:00

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Weather conditions: Clark , Sugety

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Comment/Observation

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Crew: FH

Vessel: SKIUFT

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Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

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Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

USGS CRRL and USACE Project: Bradford Island River OU Bass Sampling Start (hh:mm): 07,50

Angling End (hh:mm): 14:00

Angling Start (hh:mm): 07; 50

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Time (24hr)

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Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

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Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Comment/Observation: tackle type, abnormalities, photo, ... as applicable

Mass: collected at end of day at CRRL

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Angling End (hh:mm): 14:00

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Weather conditions: Sun , E wml

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Mass: collected at end of day at CRRL

Comment/Observation: tackle type, abnormalities, photo, ... as applicable

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

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Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

USGS CRRL and USACE Project: Bradford Island River OU Bass Sampling

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2 Sheet of Vesse

Angling Start (hh:mm): 08 °02

Angling End (hh:mm):\_

TL Species (mm)

# Deces a phospity med Latitude Longitude

Depth

Time (24hr)

Collection Collection

Weather conditions: Jight Pain, 50° F

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Stomach (V/N)

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Comment/Observation

Crew: LD, ED, TC

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Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

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Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Comment/Observation: tackle type, abnormalities, photo, ... as applicable

Mass: collected at end of day at CRRL

Angling End (hh:mm): 12 145 Angling Start (hh:mm): 07,59

TL Species (mm)

Stomach

Longitude (DD)

Latitude (aa)

Collection Collection Time Depth
Type Area (24hr) (ft)

Record

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Weather conditions: CNOV COIST - VEYS DYCEZY

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Fissue N. Brad 10:10 41 45,64318° 121,737-39 SB

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

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Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Comment/Observation: tackle type, abnormalities, photo, ... as applicable

Mass: collected at end of day at CRRL

Sample\_ID

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Comment/Observation Mass

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Sheet / of |

Crew: LO BE, JRK Vessel: SK.) let

> Angling End (hh:mm): 15,45 Angling Start (hh:mm):\_ Weather conditions: cloudy 50°F

	Comment/Obser
Mass	(g)
	(Y/N) Sample_ID
Stomach	(Y/N)
1	(mm)
	Species (mm)
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Comment/Observation	24:80	2/1:11 Office	(J) 11:56		5/37/(2/)	2(5/2)													
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Cl olumes	Sample	natchery yearling	325 Vicing (8401x 507	510/25	7. 4., 0 ,	12124017													
Stomach	(1/14)	1 PMJ)	100 m	Nothing!	Dartial	C1241815													
11	(IIIIII) - 1	10 tc	325	455	7 3 - 1	20%												:	Shore
	Species	CHK	8 X	SMR		56 M/B													A/W/ B w/A
Longitude	(00)		171.9255	121.93501		121.9356													A Shore
Latitude	(QQ)		8/NS 52581717 5119255		)	45,64112 121.935655 MB 408 CRANBAL SISHOL +11-10													
Depth	(£)		29	7.0	) ~~~	33													
Time	(24hr)		62 50:21	17.24	1	13:36													
Collection	Area	Stoore Is	F 130.2	1 5 ac	3 7 7 7	E. BRAD 13:36 32							<del>day</del> e day						
Collection	Туре	***************************************	Tiscie F Bas		1150CC	7.4500													
	Record	-		7	3	4	 C	9	7	٥	0	6	10	;	12	13	7	+	15

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

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Vessel: AAA excorstons Crew: LD, BE, 3K, FD Sheet of 2

Angling Start (hh:mm): 8	02	00	
	Angling Start (hh:mm): 8 5	Angling End (hh:mm): 14	- Alcas . no Comment alash

					Angi	Angling Start (nn:min).						
Weather	Weather conditions: Cloudy	Slandy 4	45°F		Ang	Angling End (hh:mm): 14;60	n): 14; c	20				Crew: LD, BE, 3K, ED
		7	i	, ·	A DECORES	DESTRUCT MANY		F	Stomach		Mass	Capio
3	Collection	Collection	Time (24hr)	Depth (ft)		(DD)	Species	(mm)	(Y/N)	Sample_ID	(g)	Comment/Observation
Kecord	adá	(200%)	(====									9:20 start
	1	F. Bad	82.6	31.7	45,38484	81195.121	SC	235	1	504004	163	9:22 m slart
7 6	シー	T. R. R.	25.6	27.7	46.38473	3131.5613	SACE	332	V	5B4018	Ihh	
0 4	716	E BRED	94:10	440	48,36417	121,56134	SMB	330	人	SB4019	N85	Bely too light of says
	1											end brad @ 10%
9	7	WA. Shore										10:15 st,
7												
0	Tis	E. Brad	81:11	43	27,485.29	121.56123	SMB	336	Ń	534020	509	11:10 Start
0 0	511	E Right	N2:11	25	45.38479	121.56121	SMB	359	2	120/185	130	Craptile in gut
10	15	F. Bad	76:11	14	45,3847	02195121	SMB	3/0	2	22425	255	3 at once
11	(2)	E. Bad	11:44	41,	45.38474	- 1	SMB	337	2	520485	26h	
12	Z.T.	E. Drad	11:45	14	45.38474	121,56 120	SMB	368	2	420455	-	•
13	75	E.Brad	11:56	44	45,38473	121.56113	SMB	330	2	534025		
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15	15	F. BRAT	E. 8RAD 12:13	A	45,384	45, 38470 121.5613 SMB	BSMB	330	Z	SB41037	17/1	
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Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

Sheet 2 of 2 DOM - GEH 07/21 # LAT LON TH

Vessel: Alfith excursions Crew: UD BE, 3K, ED	Comment/Observation											32027	(S. E. Brad	14:00 end		
	Mass (g)	8 834	1116	507	617	021	3 500	295	348	41119	2556	414	1691			
	Sample_ID	564028	584029711	584030	584031	58403	584033 500	454034	58403	5BH1036	SB4037 556	584038	SBHBS			
	Stomach (Y/N)	5	7	2	V	Z	2	2	2	3	2	2	2			
	TL (mm)	376	386	330	312	372	348	330	335	451	350	330	355			
	Species	SMB	SMB	SIND	SMB	S SMB	$\overline{}$	SMB	SMB	SSMB	3 SMB	SMB	SAMB			
Angling Start (hh:mm): Angling End (hh:mm):	Longitude (DD)	121.56123	121,5613	121,56135M	121,56133	121.56128 SIME	121.56123 SMB	121,56123 SIMB	121.56123 SMB	121,561335MB	121,56123 SMB	124 SEI 33 SMB	124,56123			
Anglin	B   WSAM   Valitude (DD)	45,38RO	45,38470	HS, 38490	45.38470	45,38420	45,38470	45,38470	45.38170	45,38470	45,38470	45,38470	45,39410			
	Depth (ft)	43	42	HB	12	40	42	43	KH 1	HY	HO	42	42			
SOL	Time (24hr)	12:17	12:18	512:19	12:30	18:31	13:33	12:33	13:24	13:2	12,3	13:37	12:40			
clady 45°F	Collection	F. BRAD	E. BRAD 12:18	E. BRAD	E. BRAD	E. BRAD	E, BRAD	E. BRAD	E. BRAD	D. BARD	E BRAD	C. RRAIL	L. BRA	Geose		+
	Collection Type	TIS	715	75	715	TIS	715	7	150	715	715	715	TIS TIS			
Weather conditions:_	Record	1	2	8	4	. 5	9	7	∞	6	10	11	12	13	14	

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

Comment/Observation: tackle type, abnormalities, photo, ... as applicable

22-12-h no SWS 22

Angling Start (hh:mm): 08; 40 Angling End (hh:mm): 13,05

Vessel: skillet Crew: LD, BE

Sheet of

Veather conditions:	1/2 50	8		An	gling End (hh:mm	n): 13;	50				Crew: LD BE
llection	Collection Collection	Time	Depth	Latitude	Longitude		1	Stomach		Mass	
Record Tyne	Area	(24hr)	(ft)		(QQ)	Species	(mm)	(N/N)	Sample_ID	(g)	Comment/Observal

Comment/Observation	16:30 end	13:05 end													
Mass (g)	1														
Sample_ID															
Stomach (Y/N)															
TL (mm)			7	-	2										3
Species		And the second section of the section of t		1											NA G TO
Longitude (DD)		Annual design for the second s	11	A	>										Short a top a special short
Latitude (DD)		And the second s													-
Depth (ft)															
Time (24hr)															
Collection Area	WAShore	Gosse													
Collection Type	1														
Record	,	2	3	4	5	9	7	∞	6	10	11	12	13	14	15

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

Date:
4-
12
12
12
Ñ

Date: 4	Date: 4-25-22		USGS CRRL	and USACE	USGS CRRL and USACE Project: Bradford Island River OU Bass Sampling	ord Island River	OU Bass Sai	mpling				Sheetlof	-
	Ĭ.				Anglii	Angling Start (hh:mm): 08°05	1): 08°	20				Vessel: HAA EXC	ψ.
Weather co	nditions:	Weather conditions: $Rain + 155^\circ$	550		Angl	Angling End (hh:mm):	n): 1 23 5	40				Crew: LD, BE, JK, ED	HB
			!	) <u>-</u>		-    -  -  -  -		₫	daemach		Mass	લ્વ	capatain
	Collection	Collection	Time (24hr)	Depth ( <del>fr</del> )	Latitude (DD)	Longitude (DD)	Species	(mm)	Stomacn (Y/N)	Sample_ID	(g)	Comment/Observation	]
1 10010	1760		718			1	ŀ	545				end 11:35	
2	· · · · · · · · · · · · · · · · · · ·	₽	1	Transport (Congress of Congress of Congres		A printed a printed control of the con-	** The second se	Physicans is not require the property	The same of the sa	* According to the state of the	1	st 11:40	<u> </u>
υ I		3007				And the second s	graphy and a district	general de l'accesso	A commence of the commence of	and the second s	Ì	enel 14:40	<u> </u>
Δ													
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9													
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0											Principle of the Control of the Cont		

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

œ

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

 $\textbf{Comment/Observation:} \ \mathsf{tackle} \ \mathsf{type, abnormalities, photo, ...} \ \mathsf{as applicable}$ 

Sheet / of /	J. J		ervation															
Sheet	Vessel: Skiller	Crew: PH, 604	Comment/Observation	EMPTY							٠							
	>		Mass (g)	307 E	150 Aug													
			Sample_ID	285007	(												: :	
			Stomach (Y/N)	N	(													-
ampling رئيسې	(2:7)	13:23	TL (mm)	£ £ 2	555				-					: :				
OU Bass Sa	er://:(L	1): //:57	Species	88	NPM				·									
rd Island River	ng Start (hh:mm): ///.	Angling End (hh:mm): 11:57	Longitude (DD)	-121.92538	(					,								
USGS CRRL and USACE Project: Bradford Island River OU Bass Sampling $WA = 6\sigma v^3$	Angling	Angl	Latitude (DD)	45.64562	4													
and USAC			Depth (ft)	39	Ĺ													
USGS CRRI	£ 516		Time (24hr)	12:47	ľ					,								
en e	WHER TEMP O 12:00 & SURFULL 516	folse	Collection Area	G005E	•													
Date: 05/04/6022	TEMP @ 12	Weather conditions: CLeffic	Collection Type	1955uh	l													
Date: 08	3011168	Weather	Record	1	2	3	4	5	9		∞	6	10	11	12	13	14	15

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

Date: 05/17/1412	12/202/21		USGS CRRL	and USAC	E Project: Bradf	USGS CRRL and USACE Project: Bradford Island River OU Bass Sampling	OU Bass Sa	mpling	, , .			Sheet / of /
WATER S	WHERE SURFIERE TENT	1085 Mm			Angli	Angling Start (hh:mm): 08.27	1): 08:27					Vessel: Skaces
Weather	Weather conditions:	VENUIST / FAIM			Ang	Angling End (hh:mm):_	11: 12:05	72				Crew: 15, PH, O-H
Record	Collection Type	Collection	Time (24hr)	Depth (ft)	Latitude (DD)	Longitude (DD)	Species	TL (mm)	Stomach (Y/N)	Sample_ID	Mass (g)	Comment/Observation
.,,,,,,,	TAGGAN	FBMAD	25:60	14.9	560h9.5h	75%6'121-	US	168		SSMT 17		
7	Taggiva	E. Brad	25:01	27.5	45.64147	721.93526	85	H58		55AT18		
က	Tagg mg	E. Brad	94:01	0.8/	811 h9.5h	-121.93598	28	58h		JSAT19	1	
4						en place en		See and Comments and the property of the parents				To cold to the commentation of the control of the c
2	Book	20ck	12: D	- 12:30						The second secon		
9												
7	M. Shore	ب	12:30	: 13:10	-							
∞												
6	Googse	Tsland	1 13=15	5 13:15	- 0						Distriction of the second of t	
10	Taggfra		13:12	34	45.64637	-121,92404	9B	316	\	1519T20		
11	Tagging	G-005P	13:29	45	45.64561	-121, 92552	58	352	1	J54721		
. 12	Taggme	~	14:12	24	45.64567	-121,92515	88	293	(	ISAT 22		
13	Tagging	60056	14:45	25	45.64518	-121.92603	58	295		SATAS	3.2	
14	Taggmg	60054	14:54	21	45,64485	-121.92650	, SR	238	)	JSAT24		
15	Taggna	6-605C	£0:51	23	45.64492	-121,92714	SB.	442	l	JSMT26		
Collection	n Type: Tissue	Tagging Colle	ction Area:	N Brad, S i	Brad, E Brad, Cas	Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore	at R, WA Sh	lore				
Species: S Mass: col	smallmouth b. lected at end	Species: Smallmouth bass, 5B; Crayrish Mass: collected at end of day at CRRL	n, CF; sculpii	ns, sc; Nor	thern Pikeminnd	Species: Smailmouth bass, 5B; Crayfish, CF; scuipins, 5C; Northern Pikeminnow, NPM; Steelnead, 51H; Mass: collected at end of day at CRRL	ead, STH;		Andrews in the second of the s			
Commen	t/Observation		bnormalitie	s, photo,	as applicable		77-00-00-00-00-00-00-00-00-00-00-00-00-0	(	to compression and the com	70 7477		
P	Tass1419	900St	. S. S.	20	145, 644 70	-121.92673	25	784	1	20140		
			-	200			****		_	***	•*	

Date: 05/14/1022	114/2022		USGS CRRL and USACE	and USAC		Project: Bradford Island River OU Bass Sampling	OU Bass Sa	mpling	4	DDV - 054	04/21	Sheet
					Angi	Angling Start (hh:mm): 07748	1): 07:48					Vessel: MAA
Weather	Weather conditions: Byth wist	16M CMST			An	Angling End (hh:mm):	13,35	35				Crew: EC,
	Collection	Collection	Time	Depth	& Olfford P	Ollumin Mari Longitude		1	Stomach		Mass	
Record	Type	Area	(24hr)	(ft)	(DD)	(DD)	Species	(mm)	(N/N)	Sample_ID	(g)	Comment/O
1	7,5VR	NA Share	18:8	te	45.39146	121.5501	SIMB	315	Z	510HO	425	New Upst
2	T. SOVE	WA Share	8:38	38	45.39148	131.54077	SMB	340	Z	584041	180	1 CRANGE
8	7,55UR	WA Shore	90%	10	45,39146	121.55.081	SIMB	335	Z	SBYOUR	585	SOMP EISL
4	T.5500	M/A Shave	9:10	36	45.39145	121,580	5 SMB	810	Z	584043	415	emoty
5	T15910	N.M. Sleve	0116	36	H5. 39PUS	121.5500	SMB	345	2	SBHOTH	010	emphy
9	T, 55 UP	UAShore	£:6	33	H5.39149	121,550	SIMB	338	2	SBHD45	515	Purphy
7	TISSUE	WASher	78:b	18	45,39145	121.55MB	SMB	300	Z	SBYNA	355	fish po
8	Tissue	NA Shoe	29:35	A	45.39145	5121.550B	GIMB	330	Z	5B4047	481	fish po
6	T. 3540	1) Agus	GH. 9	15	46, 39144	121.550	SIMB	88	2	5134048	200	Supt
10	15506	h) AShow	9:55	7.0	45,39138	5 121.558	DSMB	365	NI	SR 4049	227	chayfist
11	1155UR	14. 9m	9:59	و	45.39137	7121.550	BMB	385	2	584050	787	eman
12	T. 451R	M)AShare	18,00	9.9	45,39137	7 121,5509	3 SMB	385	2	584051	312	emoty
							,				-	7 7

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

10, 6 45.39BZ

14

13

Chinook Gry

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

Comment/Observation: tackle type, abnormalities, photo, ... as applicable

heet of A

IAA Excussions

3C, BE , CM

osteam avea

t/Observation

USGS CRRL and USACE Project: Bradford Island River OU Bass Sampling

ALAT LON SON DOM - COSH OFFE

Vessel: AAA Skursican Sheet 2 of 2

WA, Shore	_
13:25	Stomach
07:48	TL
Angling Start (hh:mm): Angling End (hh:mm):	atitude Consitude
	Depth
amy	Time Depth
Windy, R	tion Collection
ns:	tion

Crew: EL, BE, G#		Comment/Observation
	Mass	(a)
		Sample ID
13:35	Stomach	(N/N)
35-13:25	1	(mm)
5 m		Species
ngling End (hh:mm)	Longitude	(DD)
Ang	A Maritude	(DD)
	Depth	(#)
ZiMy	Time	(24hr) (ft)
Dindy, Rainy	Time	
inditions: Windy, Rain		(24hr)
Weather conditions: Windy, Rainy	Time	Area (24hr)

Comment/Observation	Sun Ols	CIMMEN	/ /													
Mass (a)	100	110														
Sample ID	SAUNCE	00.00														
Stomach (V/N)	W)	2														
TL (mm)	090	283														
Species	SMA R	JIMI														
Longitude	101 551846 CM R	からいこと														
Latitude	5	$\rightarrow$														
Depth (#)	1	-														
Time	20101	10,00														
Collection	VIV AL.	NH SNOVE 10, OF														
Ö	7 06130	112200														
2000	necoin.	1	2	3	4	5	9	7	∞	6	10	11	12	13	14	15

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

Weather conditions: Many

USGS CRRL and USACE Project: Bradford Island River OU Bass Sampling

S/EBUND

Angling Start (hh:mm): 07,55

DOM - OCH OTH # WHY WAY THE

Sheet | of /

Vessel: AHA Excusses

Crew: EC, T.C., LO, 75, 0th

Angling End (hh:mm): 15;08

	Comment/Observation		Possible Arr bladberissin												
Mass	(g)	1	1	1	(	1.	1	1	t	1	ţ	1	1	1	1
	Sample_ID	JSAT27	55at28	JS47 29	7gAT 30	55AT 31	251455	554733	JSA-734	55A735	554736	754537	JSA7 38	554739	Jsat 40
Stomach	(V/N)	1	ť	١	1	1	)	-	١	)	1	l	(	\	1
7	(mm)	263	592	309	320	289	337	299	142	345	8/2	248	324	322	314
	Species	58	Sis	53	58	SIS	SIS	SB	SB	SIS	SRS	53	85	SB	SB
Longitude	(DD)	121 56.264	14 56.225	121 56.174	121 56.217	121.56.156	121.56173	121,56176	121,56177	121,56169 SB	121.56179	[21 56.232	121 56.228	SIS 22.25 121	121 56.223 5 13
A Wester Westight MW Latitude Longitude	(QQ)	45 38.432	45 38.440	45 38,453	45 38 442	45 38.456	844.8E 54	45,38454	45,38450	45,38456	45,38449	45, 38. 442	Sh.88 Sh	45 38.444	MH88 SH
_	£)	15	40	3	36	39	38	52	38	£2	40	37	36	37	34
Time	(24hr)	21:80	15:80	09:25	10:24	10:56	11:30	oh:11	11:44	11:55	11;58	13,14	13:24	13:34	14:58
Collection	Area	SRAM	S, Brad	5. Beth 09:25	5.8 MAYO 10:24	S. Brad	S.Bad	S. Darie	S. Bac	S. Brod	S. Bad	S. Broto 13:14	S. Surv	S. Brad	S.Bac) 14:58
Collection	Type	Weam	Tagging	TAKASML	Thrown	Tagging	Tagging	Tagging	Tagging	Tagging		TAMEN	MARINE	Tagging	lagging
	Record	1	2	3	4	5	9		8 FEMA	6	10 Ting	11	12	13	14

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

45 38,444 121 56.231

S. Bard 15:08

5

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

Sheet 1 of 1	Vessel: AHA EXCURSEN	Crew: EC, TK, 644
# LAT LON IN		
ISGS CRRL and USACE Project: Bradford Island River OU Bass Sampling $\phi_{0005\mathcal{E}}$	Angling Start (hh:mm): 67:50	Angling End (hh:mm): いろ
/14/2022 USGS CRI		leather conditions: CLEME : CMUM
Date: 05		Weather

Comment/Observation	CRAYESTH : STARLEBACK	EMPTY	EMPTY	CRANGERH PARTS	SALMONIN	CRAYFERY MAKES	CRAYFESH		X.						
Mass (g)	385	178	179	242	141	450	293								
Sample_ID	58 410 58	53 4057	850h 85	58 4059	584060	190485	534062								
Stomach (Y/N)	7	2	2	2	N	N	>								
Tr (mm)	310	250	251	275	230	318	290								
Species	53	273	53	88	5,3	818	28								
Operant war Longitude (DD)	121 55.469	121 55.461	121 55,473	121 55.431	121 55.570	121 55.577	121 55.598								
女りどいかもり Latitude (DD)	45 38.758	45 38.765	45 38. 760	45 38.778	45 38.700	45 38.69	YS 38, 765								
Depth (ft)	23.r	19.0	31.0	19.6	18.6	23.8	44.0								
Time (24hr)	07:50	18:27	08:36	40:60	10:28	10:36	11:17								
Collection Area	GOUSE	35009	50003	Crosse	COUSE	(3053 €	Goose								
Collection Type	77854E	342527	TISSUE	TYSHE	TESSUE	TESSUE	TISSUE								
Record	1	2	3	4	5	9	7	8	6	10	11	12	13	14	15

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

Date: 05/27/2022	USGS CRRL and USACE Project: Bradford Island River OU Bass Sampling	Sheet of
	CHOSE	
	Angling Start (hh:mm): 67:50	Vessel: MH Excurses
Weather conditions: KATHY; BLEETY	: BLEETY Angling End (hh:mm): 11:50	Crew: EC, OH

Comment/Observation																
Mass (g)										The state of						
Sample_ID																
Stomach (Y/N)									٠							
TL (mm)																ore
Species																oat R, WA Sh
Longitude (DD)							• - -									cade, Goose, Bo
Latitude (DD)									: :							Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore
Depth (ft)									r							: N Brad, S E
Time (24hr)															٠	ction Area
Collection Area	152M															Tagging Collet
Collection Type	Mo											:				Type: Tissue,
Record	1	2	8	4	5	9	7	&	6	10	11	12	13	14	15	Collection

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

Sheet lof of	Vessel: COITO	Crew: 1K, 6H	Stomach Mass (Y/N) Sample_ID (g) Comment/Observation																
OU Bass Sampling ぐゅのろぼ	1): 09:90	12:50	TL St Species (mm)																
USGS CRRL and USACE Project: Bradford Island River OU Bass Sampling $\langle  ho_0 S \mathcal{E}  angle$	Angling Start (hh:mm): 09'.90	Angling End (hh:mm): 12:50	Latitude Longitude (DD) (DD)										······						
GS CRRL and USACE Proj	@ 12:00	7 SPARTE	oth	(5.)								-							
	Though 58,9 "	SYNNY , LECH.	Collection																
Date: 06 1991 2022	Saskfire WATIER Thank 58,9 @ 12:00	Weather conditions: SHINNY, LEGHT BIRETA	Collection	Record Type	2	e e	4	2	9	7	8	6	0	QT .	11	12	13	14	

Sheet | of |

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH; Collection Type: Tissu

Mass: collected at end of day at CRRL

USGS CRI	
28/2022	
)ate: 06/	

Weather conditions: Overcast, Bullety

RL and USACE Project: Bradford Island River OU Bass Sampling

Angling Start (hh:mm): 16:50

Angling End (hh:mm): 10:50

17-5 Crew: 10, 18 & Vessel: COHo

Sheet of L

	Comment/Observation		C. ANTICH
Mass	(g)	ò	-93
es,	Sample ID	2.4	SR 4063
Stomach	(N/N)	/2./	₹  -
己	(mm)	(11111)	250
	00:00	Species	C.
Longitude		(nn)	101 90150
Latitude		(DD)	20/17/ 18/ 20/ 20/ 20/ 20/ 20/ 20/ 20/ 20/ 20/ 20
Denth	באבו	<b>(</b>	
Time	<u> </u>	(24hr)	2 1 0 2
100	Collection	Area	,
=	Collection	Type	
		ord.	

Comment/Observation	OLAYFISH	057	Monor										Addition will be								
(g)	193	601	7.07	Edd.								31	3				7				
Sample_ID	58 4063	710082	204067		_						:										
(Y/N)	2	,	2																		
(mm)	250	2110	142																		
Species	88	2	56							_											
Longitude (DD)	-121,92405	92	-121.75053																		
Latitude (DD)	62949 Sh		45.64280												44.						
Depth (ft)	35.6		18.55 18.5																		
Time (24hr)	80160	20	18:52				,					_									
Collection Area	6.0006	$\top$	Grasse																		
Collection	1/1/6 36	17546	1 KSUE																		
Record	n local	1	2		က	4	2	9	7	,	∞		5	10		11	12	,	13	14	15

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

adford Island River OU Bass Sampling Sheet of	:mm): /3 :/5'
Date: $\partial \mathcal{V}/\partial \mathcal{U}$ 22 USGS CRRL and USACE Project: Bradford Island Ri	SUNTACE WATER TRUL 61.4 F @ 13.17 Angling Start (hh:mm)

Weather conditions: Over Const : Wanny

Angling Start (hh:mm): 15:15

Angling End (hh:mm): 15:45

	Comment/Observation	MANEON PAST	VERTISAL CHAIS	~ .
Mass	(g)	623	75	•
	Sample_ID	2000	2024003	
Stomach	(V/N)	7	2	•
겉	(mm)	200	>>8	
	Species	,	5.8	
Longitude	(aa)	, , , ,	-121,72346	
Latitude	(DD)		45.64664	
Denth	(±)		24.0	
Time	(24hr)		12:51	
Collection	Area		(T0054)	
ممنئصالمي	Type	adk-	19554E	
	3	5		

Comment/Observation	CLAYFED PARTS	CARVERH / (754 phus)	155 CANGON WAIS	The state of the s	2 sum Carrefreen	CEMYPSH MATS											
(g)	539	201	166	//	35	3/0											
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Stomacn (Y/N)	5	ک	, ,	2	2	2											
IL (mm)	338	250	72.0	277	337	582											
Species	2%	. 25	3 3	AC	5.8	5.8											
Longitude (DD)	JA266 161-			Ac 10051.171-	-121,93030	-121,93040											
Latitude (DD)	h93h13h			75,67504	45.64.294	45.64301											
Depth (#)	24.0	27.0	2	22.6	13,6	t.52											
Time (24br)	12 .2.2.	14.2	1116	15:03	15:13	91:51											
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-	Record	1	2	က	4	L.	٥	7	~	6	10	7	11	12	13	14	15

Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

Date: 07/17/1012	2100/11	2	USGS CRRL	and USACE	E Project: Bradfc	USGS CRRL and USACE Project: Bradford Island River OU Bass Sampling	OU Bass Sar					Sheet of	
					Anglin	رخصع) 10 / ال ' 10 ( الس:hh:mm)	Gasse ): 10' 10		02:51			Vessel: Corto	
Neather c	onditions: $\overline{\mathcal{U}}$	Weather conditions: CLOME; LIGHT WING	WINK		Ang	Angling End (hh:mm): // ' 40	0): // :/ 40		SIZHI			Crew: 51k , 6H	1
Record	Collection Type	Collection Area	Time (24hr)	Depth (ft)	Latitude (DD)	Longitude (DD)	Species	TL (mm)	Stomach (Y/N)	Sample_ID	Mass (g)	Comment/Observation	
_	1755al	3500-0	16:01	1.91	45,64294	JS 81026, 121-	25	237	N	5B4070	133	FISH PANTS	
2	TESSAR	ŀ	24:01	17:41	45.64294	7(21,93035	28	1/12	2	1401,85	175	175 EMPTY	
1 "	+	6,005E	0h:21	8,65	45,64304	-161,9305	58	309	2	SB4072	398	295 Fish + (rapish Parts	
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Collection Type: Tissue, Tagging Collection Area: N Brad, S Brad, E Brad, Cascade, Goose, Boat R, WA Shore

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13

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Species: Smallmouth bass, SB; Crayfish, CF; sculpins, SC; Northern Pikeminnow, NPM; Steelhead, STH;

Mass: collected at end of day at CRRL

### **APPENDIX B: Chain of Custody Forms**

## Sample Identification 504011 504011 504011 504011 504012 504022 504022 504022 504022 504023 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 504025 Special Instructions (QC Requirements & Comments: see lask order Project (Indicad Saled Song Fa) Tissue Localism Cocode (Jody, Cropya Laber Corden Larcating (Off Princ Codent), POC; Tis vikinol (SPT) Princ Codent), Prince No.; 1973-4, 1333 Sampling Years: USSS COOLUR No.; 1 off. COCODE No.; 1 off. Report Baselst Tiss rotate Norics Opposite the 4/21/2022 4/21/2022 4/21/2022 4/21/2022 Sample Date (2022) 2 11:15 Tissue arging 2 11:24 Tissue arging 1 11:42 Tissue arging 11:44 Tissue arging Chain of Custody Record -- US Army Corps of Engineers USACE 9.45 Tissue avging Date/Time: Oste/Time: 1 facewed by: Return To Site PCB Congeners (1668) SCVDE I SCVDE I NEARITE VBMA CC × Date/Time:

# Chain of Custody Record--US Army Corps of Engineers

Mysichle Nazard Idennifikation:  tomon enimoneral conteniants and cocertations «Rdis, Hercon Spacial Instructional/QC Requirements is Comments:  ee task order  ee task order  Organization: USAG  eniquished by:  Organization:	ille Mazard Identification: I martinomental contentiants et cercentrations - PCBs, Men I Instructional (CC Requirements & Comments: Looder Looder	ile Rezard Identification: - environmental contaminant and concernations - RCBs, Hen- - Linstructions/QC Requirements & Comments: - coder	ele Aszard Identification: In environmental contaminants and concertrations - PCBs, Mon		FEDEX Airbill Tracking Number:		SBHO 73-MSMSD	S840 73-FD	SB40 75	S\$4072	140485			58 4068 71125 1515 Tobe ONT	58-4067 FWE FOOD 385	Sample Identification (2022) T	one No. 1 205-254-3424	DOLER No.: of:	13	one No. 1847-324-3320	DC: Tim Witzek (EMT)	abi: funding Lancaster (EMT Prime Contract)	ojecti Bradford Island Spring Fish Tissue
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	Detty/Tame:	Opto/Time:		Archive For Months												Sample Specific Notes:		See task order.	Additional Cleanup Steps:			A 7 000	

# Chain of Custody Record--US Army Corps of Engineers

	equished by: Organization:	Salinquished by Organization, USACE	Special Instructions/QC Requirements & Comments: set task order	Possible Mazard Edentification: corroon environmental contaminants and concentrations - PCBs, Mercury	FEDEX Airbill Tracking Number:		. 58 4065 THURS 15:22 TODARDO	86.8 40 GH BS 40 BS	· S8 4063-FD (0/28/24) 208 Transport	CAD 4063 (MARIE 3.08 12.08)	\$/24/2022	<ul> <li>SB4081 S/24/2022 10:16 Tiess.</li> </ul>	* SB4060 - FD 5/24/2022 10:28 TISSU	* SSH000 S/24/2022 10:28	\$ 689059 \$1/24/2022 9:07	5/24/2022	• 554067 S/24/2022 8:27	Sample Sample Date Sample Sample Identification (2022) Time	have No. 1 206-264-3474	COOLER No. : of:	gilling Tearn: USGS	one No. : 547-324-3320	OC. Tes Witnes (DHT)	aby Funding Lancauter (EMT Prime Contract)	Andrew County John County
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Location: Cascade Locks, Oregon				ı	-			Analy	Analytical Method and Preparation/Extraction	thod and	Prepar	ation/	Extrac	tion		d / coc
POC: Tim Witzek (EMT)			ı	ı	1											Additional Lab Instructi
Phone No.: 847-324-3320					0				es							
Sampling Team: USGS					0		(88		DO							Additional Cleanup Step
COOLER No. 1 of:					-				Per							See task order.
Report Results To: Kristen Kerns					/96				ine							
Phone No.: 205-764-3474																
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# Chain of Custody Record -- US Army Corps of Engineers

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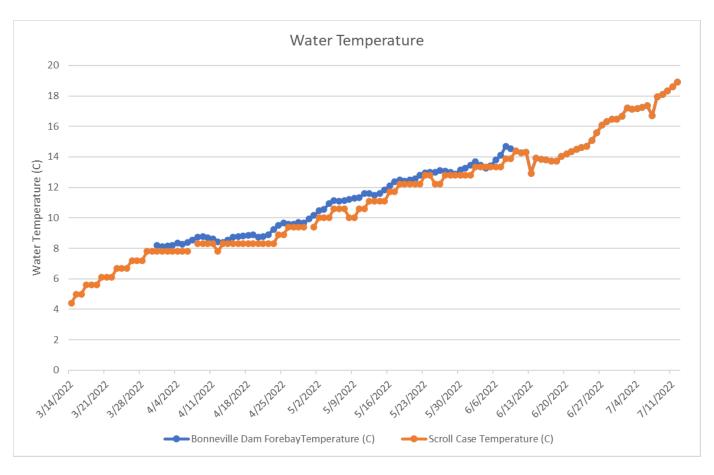
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## **APPENDIX C: Daily Water Temperatures**



**Figure C-1**. Daily water temperatures recorded in the Bonneville Dam Forebay and Scroll case between 14 March and 12 July 2022. (source: http://www.cbr.washington.edu/dart/query/river\_daily)